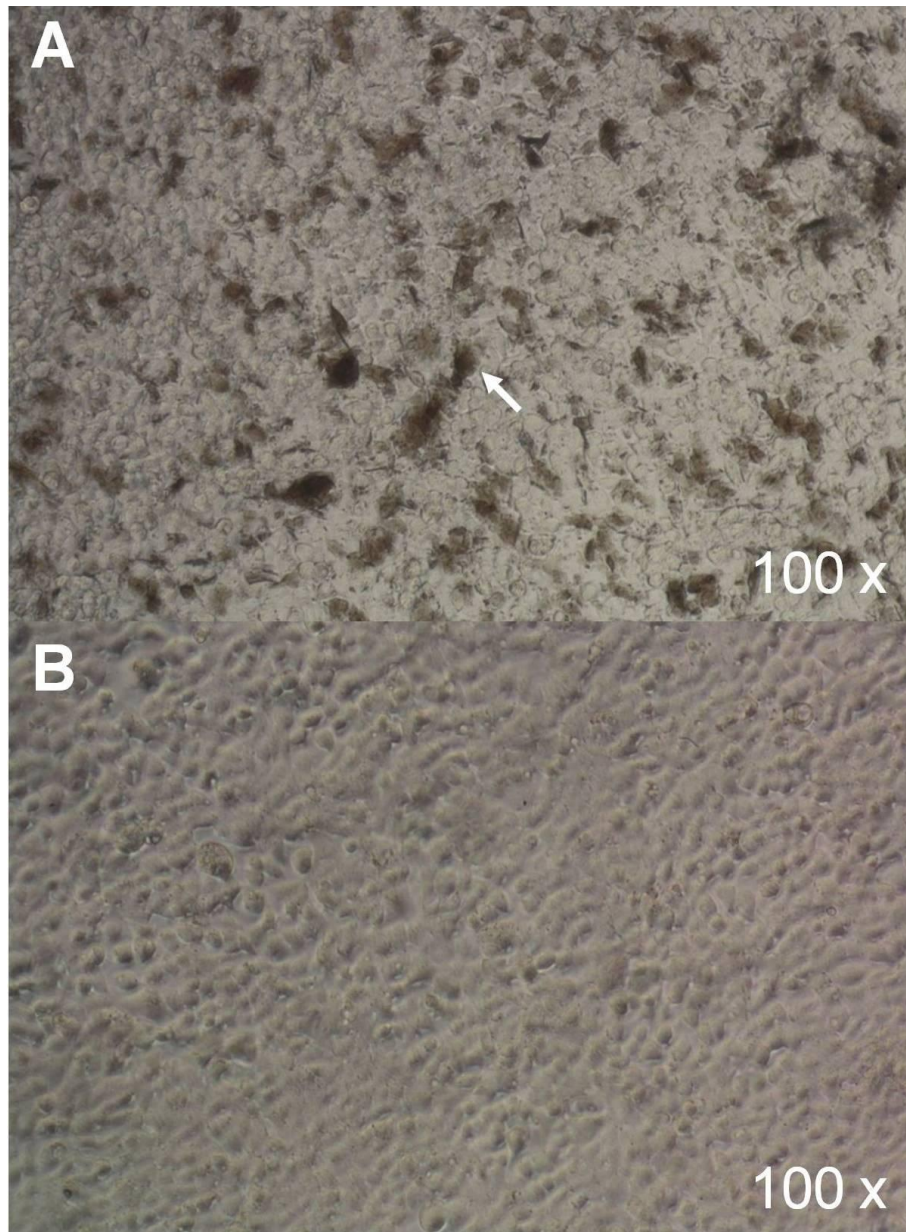
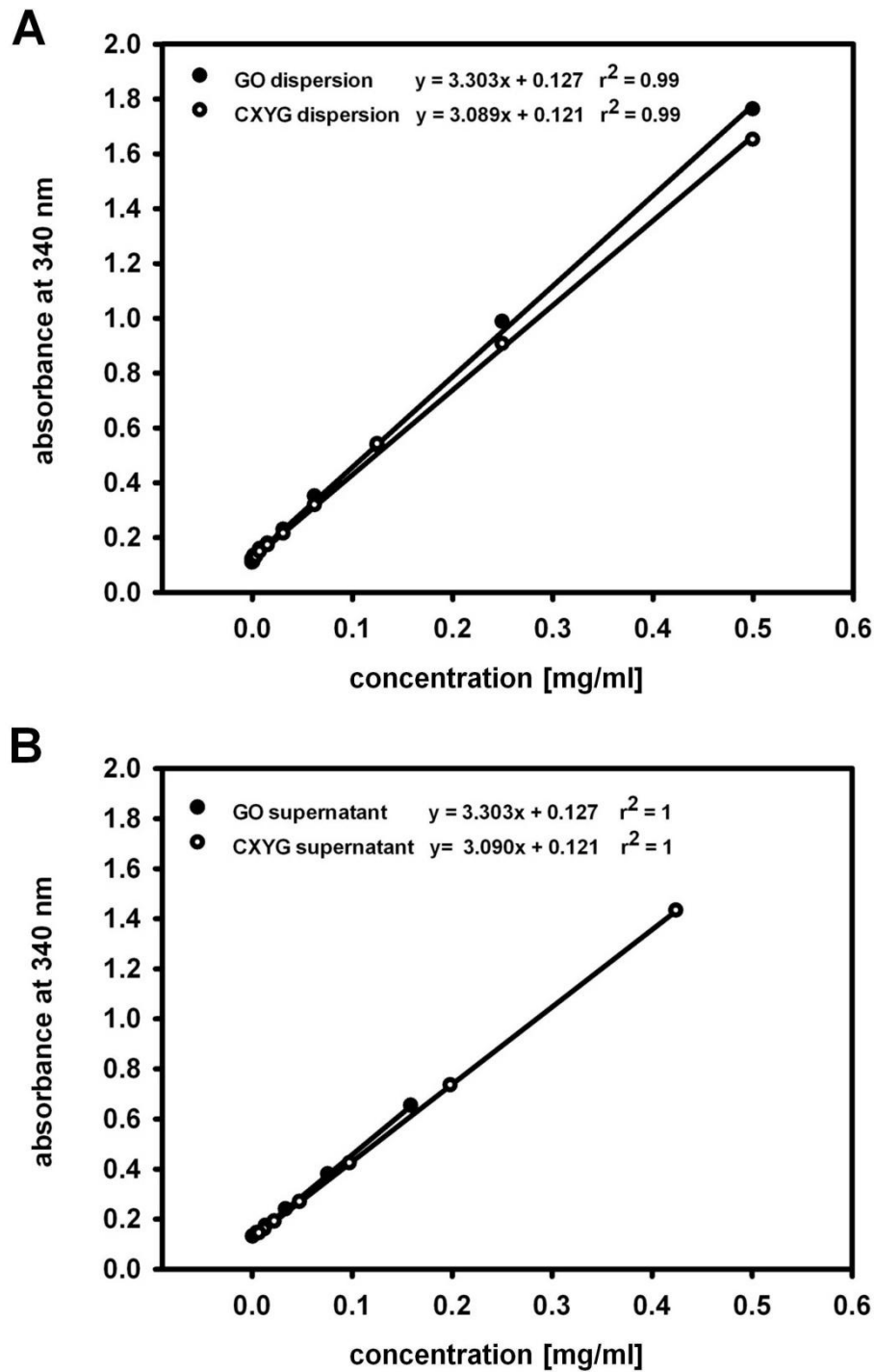


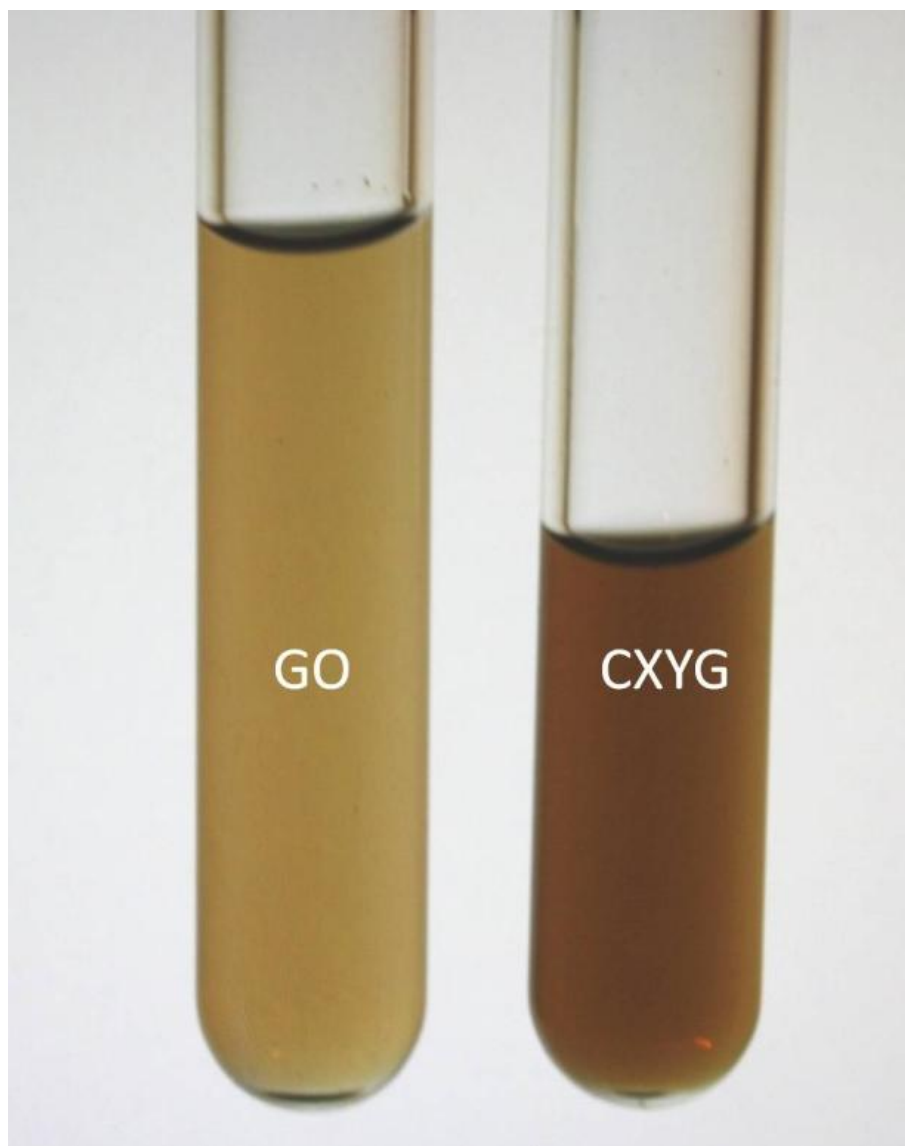
**Figure 1: Size distribution of ultrasonicated GO suspensions in Milli-Q water before and after centrifugation determined by means of DLS.** GO was dispersed in Milli-Q water at a concentration of 1 mg/ml using ultrasonication. DLS measurements performed on aliquots of the dispersion demonstrated low inter-measurement reproducibility (A). Consequently, the GO dispersion was centrifuged to eliminate not fully exfoliated material and large aggregates/agglomerates. DLS measurements performed on the supernatants of the centrifuged dispersion demonstrated good inter-measurement reproducibility (B).



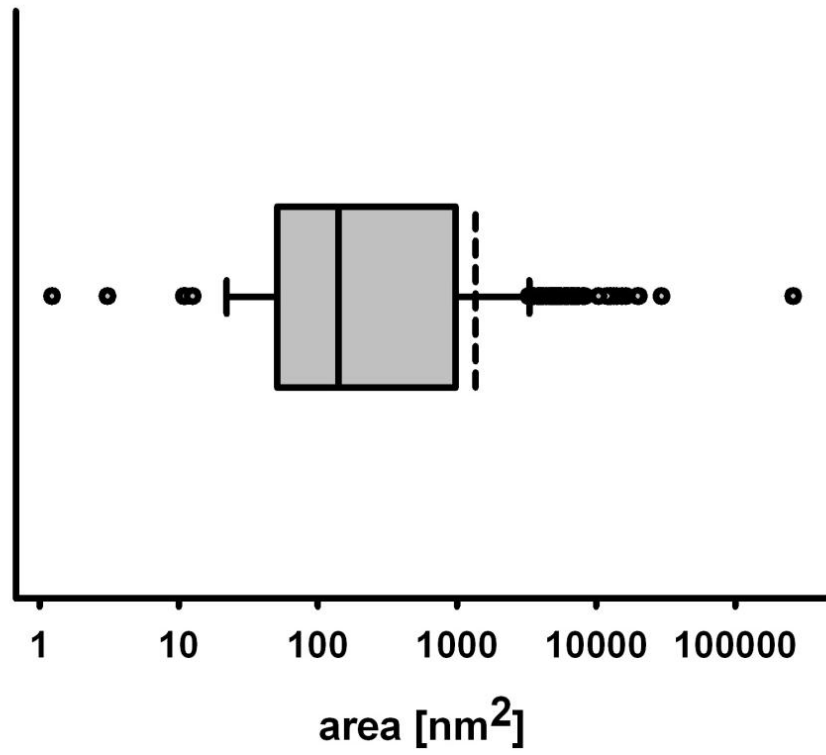
**Figure 2: Light microscopy images of Hep G2 cells treated with non-centrifuged and centrifuged GO suspensions.** A) Hep G2 cells treated with a 100 µg/ml GO suspension prepared from the non-centrifuged stock suspension. B) Hep G2 cells treated with a 16 µg GO suspension prepared from the centrifuged stock suspension (1300 g, 30 min). After 24 h the microwells were washed twice with PBS and then analysed in the light microscope. In A large particles (aggregates/agglomerates/not exfoliated material) were observed in the wells on top of the cell monolayer (white arrow). In B no GO aggregates/agglomerates were discernible under the light microscope. Both images were taken at 100X magnification using a Zeiss Axiovert 25 inverted microscope (Carl Zeiss Microscopy GmbH, Jena, DE).



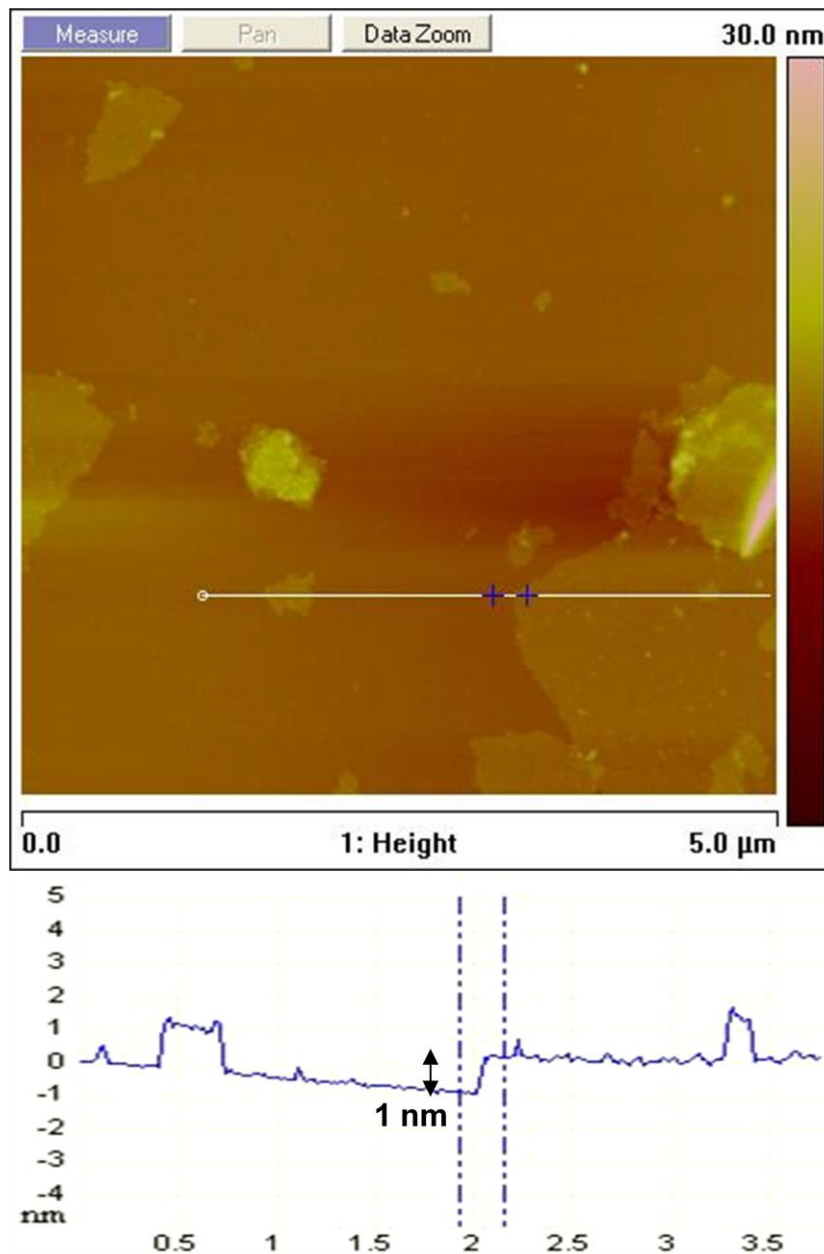
**Figure 3: Estimation of the concentration of GO and CXYG stock suspension.** A) Standard curves generated from the non-centrifuged GO and CXYG suspensions. B) Absorbance values of the corresponding supernatants and serial dilutions thereof plotted against the concentrations estimated by means of the standard curves shown in A. Note that the slope of the curve derived from the non-centrifuged suspension was similar to the slope of the curve derived from the centrifuged suspension indicating that the concentration and agglomeration state of the suspensions had no influence on their absorptivity.



**Figure 4: Photograph of GO and CXYG stock suspensions after 8 weeks of storage at 4 °C.** GO and CXYG stock suspensions (160 and 320  $\mu\text{g/ml}$ , respectively) demonstrated high colloidal stability. No sedimentation of GO or GXYG could be observed.



**Figure 5: Size distribution of GO platelets in the stock suspension established on the basis of surface area measurements performed on AFM topographical images.**



**Figure 6: AFM topographical image of the GO stock solution.** In addition to GO nanoplatelets with lateral dimensions in the lower nanometer range (cp. results section, Figure 2a), few GO platelets with lateral dimensions ranging from several hundreds of nanometers to a few micrometers could be identified.